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in NTA

MEMORANDUM

SUBJECT: Net Technical Assessment

The current interest of the White House in "Net Assessment" reflects a concern that has existed for many years within the Defense community about techniques for evaluating US systems and capabilities against the forces in opposition to them. This concern was evident in the large net evaluation effort conducted by the NSC in the early 1950's; it influenced Johnny Foster to begin a substantial program of net assessment studies about two years ago; and it was strongly voiced in the Defense Blue Ribbon Panel report of last year. It has now lead to the establishment of the Net Assessment Group on the NSC Staff.

In the broadest military sense, the purpose of "Net Assessment" is to evaluate the outcome of a large scale military confrontation. What, for example, would be the result of a strategic nuclear exchange between the US and USSR; what would be the outcome of a ground war between the Warsaw Pact and NATO Forces; or, what is the capability of the US B-52 strike force to penetrate the Soviet defensive systems and reach assigned targets? Problems of this magnitude, however, are so complex that no completely satisfactory analytical mechanism has yet been invented to handle them. Attempts to do so over the years have met with only limited success. The military of course has a long experience in war gaming. Alan Entovin tried hard to find a way to assign "values" to alternative military force levels, and both CIA and DOD have analytical devices which we use to make gross estimates of the outcome of large level conflicts. We call ours the "Arsenal Exchange Model". For the most part, however, these large scale games and analyses have been useful primarily for heuristic purposes; it is generally recognized that the analysis is so sensitive to input data - much of which is necessarily estimated - that its precise results cannot be taken at face value.

However difficult it may be to perform aggregate force analysis, it is possible to analytically simulate a small part

of the problem; namely, the outcome of a single system against its opponent system. It is, for example, analytically feasible to describe how a B-52 aircraft will perform against an SA-2 or SA-5 air defense site; or, how well a Polaris missile can penetrate a Moscow Galosh site. This kind of small scale analysis can enhance one's understanding of the larger problem and, more important, provide the system developer with information about the effectiveness of specific elements of the system, such as penetration aids or electronic jammers.

This more limited aspect of "Net Assessment" has come to be called "Net Technical Assessment" (NTA) and is the nature of the work that ~~CIA/DDSET~~ has been doing on behalf of DOD for the past two years. DDR&E chose to do this work through us because an authoritative technical description of the Soviet system is a prerequisite to a believable NTA result. And so, because of the knowledge about Soviet system capabilities that exist in OSI, FMSAC and their analytical contractors, DDR&E proposed that these contractors also perform the assessment analysis. To support this work we receive funds from DDR&E which we forward to our external analysis contractors [redacted] for specific tasks worked out jointly by us and DDR&E. OSI and FMSAC authenticate the USSR system description that goes into these analyses and provide technical supervision over the contractors' work. The attached cost summary shows the CIA and DDR&E funds that have gone to these contractors in 1971 and 1972.

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We have been pleased with the way this program has progressed. Among the studies completed, for example, are "U.S. Polaris Penetration Capability against Moscow Type ABM Systems," and "ABM Capability of Soviet SAM and Upgraded SAM Systems." The results have been useful both to the US system developer and, more generally, to the SALT verification analyses. More important to us, our analysts do their intelligence job better when they are intimately involved in a process which helps them identify those elements of information which are truly important. Net technical assessment is, indeed, something we would wish to continue at some level even though DOD were to stop its financial support.

Finally, in addition to the analysis of confrontations between weapons systems and military forces there are other aspects to net assessment which may become more important, or at least of more interest, in the future. One is the comparison of like systems or technologies to evaluate which side is best exploiting the technologies or the resources that are available

to it. The second is the comparison of economic or resource status in areas other than military. Both these subjects are relevant to the recent controversies surrounding Dr. Foster's conjectures about the USSR expenditures in R&D and what these may portend about future US/Soviet military capabilities. The DDR&E is spending rather substantial funds, probably several million dollars, in contractor studies to address questions in these areas. The CIA production offices are aware of these studies and are privy to the results, but do not participate in their supervision.